III. SUBSISTENCE

Agriculture

241 [226] Agriculture and fishing are the principal sources of Tukuna economy. If forced to, the Tukuna will go for some time without collecting wild fruits or hunting; but the complete lack of garden products and fish simply spells misery to them.

[462] [476] [462] [412] The garden patch, cleared and burned out of the virgin jungle, is as a rule made exclusively by the men, often in a communal work party, *uajurí;* but some widows, without masculine aid, clear the land and plant in the *capoeira* or secondary jungle growth. Both sexes pile up the rubbish and burn it, whereas planting is carried out exclusively by women and girls. The original instrument for felling trees was the stone ax, whose appearance no one now remembers, but which, according to legend, the culture hero dyoi' stole from the demon toi"ta [tu]"'ta] (see page 131).

The four species of major importance for the Tukuna are bitter manioc, *mandioca brava* (*Manihot utilissima*), sweet manioc, *macaxera* (*M. aipi*),[1] maize, and yam, *cará* (*Dioscorea* sp.).[2] Lacking any one of these four, the Tukuna have a bad time of it, whereas the absence of other edible tubers, such as the sweet potato, and of other plants like sugar cane, pineapple, peanut (*manduví*),[3] and so on, affects them very little.

[773] According to legend, a solitary old woman discovered both the tree which furnished macaxera-like fruits and the art of making manioc flat cakes, beijús. On learning the secret, the men felled the tree and ate up everything; only Deer kept shoots and seeds in a basket (vatu') of which the culture hero dyoi' later robbed him (see p. 131). For this reason the Tukuna refer to a cultivated plant as a pre-Columbian possession by saying that "it first came in Deer's vatu'."

[717] Formerly, only sweet manioc was known to them; apparently bitter manioc and the process of making manioc flour were introduced by the Neobrazilians.

[412] In planting either variety of manioc, a woman goes ahead, armed with a long, heavy, rounded stake of wood with a sharpened point (about 140 cm. by 7 cm., with which she makes holes in the ground, a female companion trailing behind to insert the plant slips into the prepared soil. This stake (paye'[ʷ]ú), when not in use, is kept under water near the entrance to the house or clearing, so that it will not dry out and lose weight. It is removed and dried off only on the eve of planting.

243 [773] Maize was not "in Deer's vatu'" but, according to legend, was given to the Indians by aria'na, a great coquette of the upper world, who brought it with her from one of the lower worlds, where she was once forced to sojourn against her will. (See p. 112.)

[462] The planting of maize, done preferably by men, is accompanied by a certain ceremoniousness that is not observed for any of the other plants. The kernels are placed first of all in a gourd of water. The planter then takes a little of this water in his mouth and sprays it over the kernels in order to make them more savory.

243 784 Until the plants reach a certain height he must submit to rigorous taboos. He cannot go near the fire, or eat or even touch the following fish: pirarucú (*Arapaima*

[1] Commonly known in Brazil as *aipi*.—Trans.
[2] A tuber also known as *inhame*.—Trans.
[3] *Arachis hypogaea;* commonly known as *amendoim;* T., tʉ'tʃ.

1:Nimuendajú E-5 (1941-1942) 1952
SQ20 Tucuna SQ20

Another plant that formerly furnished fibers is the mɔɔ'vị (*Bromelia* sp.; l.g., *curauá*);[a] they served especially for bowstrings and for lashing arrows.

According to Bates the small bags (tʊ'/maka) with carrying strap were made of bromelia threads;[b] in them the hunter carried ammunition for his shotgun, and they also served as containers for trifles at home. Today, without exception, they are made of tucum fiber (pl. 7, *c*). Nowadays bromelia is only rarely cultivated, and then on a lesser scale as a medicinal plant.

After the beginning of commerce with the Neobrazilians, tobacco also was cultivated less frequently, and it has almost disappeared from Tukuna clearings. Its old name was pɔ:'ri. Pre-Columbian occurrence is probable, since tobacco is used in Tukuna magic ceremonies. Aside from sugar cane and bananas, the Tukuna adopted from the Neobrazilians only the watermelon, vɔ'račia (from the Portuguese *melancia*), and the squash, *jurumúm* (*Cucurbita maxima*), of which they make little use.

However, they cultivate almost all the Neobrazilian fruits,[c] planting around their houses mangoes (*Mangifera indica*, Reg.), avocados (*Persea gratissima*, Gaert.), *abiú*, *atta*, *biribá*, oranges, lemons, papayas (*Carica papaya* L.), guavas (*Psidium guayava*, Raddi), cashews (*Anacardium occidentale* L.), *bacuri*, and *ingá*. It is difficult to determine whether most of these fruit trees were cultivated by the Tukuna in pre-Columbian times. The genipa and the urucú figure in the legends of culture heroes; both are found in the house yards.

There are a great number of medicinal plants, many of them being cultivated at the border of the house yard so as to be always at hand. For poisonous snake bite the Tukuna apply a liquid prepared from the scrapings of a plant called a/tapɵ-arị-eị[a] (medicine of jararáca; *Bothrops jararaca*) boiled in water; they give the victim spoonfuls of this at intervals, until the symptoms subside. If the accident occurs in the jungle, far from home, the victim chews the green leaves of a common bush, swallowing the juice in order to retard the effects of the poison.

The bulb of a cultivated plant, dyaa'-arị-eị[a] (diarrhoea medicine) or pʊ:'čul ("nightingale"), scraped and made into an infusion with cold water, is used for diarrhoea (dya'ị[a]). The dried leaves of čëë-arị-ẹị (medicine for blows; čëë, blows), also cultivated, are tied over bruises which break the skin. For earache, the leaves of ñʊma'čiö-arị-ẹị[a] (P., *trevo rouxo*, purple trefoil) are crushed to distill the juice, which is slightly warmed with a firebrand and introduced into the ear by a leaf rolled into funnel shape. This is also a cultivated plant.

The root scrapings of ẹ/tịmaa (bitter; l.g., *gapuhy*; *Martinella obovata*) a solid-ground jungle cipó, are applied in the same way for conjunctivitis. If this remedy proves ineffective, an ash from the charred tip of the Mauritia palm, curauá, is dropped into the eye; today this species is planted only for this purpose.

Domestic animals.—For domestic animals the Tukuna have only dogs, chickens, ducks, and, rarely, a cat (T., pe'cana; l.g., *pichano*). According to Tukuna belief, chickens (ɔta', from the ancient Quechua, *atahuallpa*)[e] were caught somewhere in

[a] The term *curauá* is also used for a palm (*Mauritia curaua*).—Trans.
[b] Bates, 2:403.
[c] See Glossary for species and description of these fruits.
[e] Nordenskiöld, Deductions Suggested by the Geographical Distribution of Some Post-Columbian Words Used by the Natives of South America, Comparative Ethnographical Studies, 5:17 ff.

2: Nimuendajú E-5 (1941-1942) 1948
SQ20 Tucuna SQ20

CULTURE

SUBSISTENCE ACTIVITIES

241 **Farming.**—The main *Tucuna* crops are bitter manioc, sweet manioc (macaxera), cara (*Dioscorea*), and maize. The last is planted with some ceremony. There are also at least three species of edible tubers which are not used by civilized people.

226 227 **Fishing and hunting.**—Fish, of great importance to the *Tucuna*, are taken with four- to nine-pronged javelins, arrows, harpoon arrows, baskets, weirs, traps, and a drug made of timbó. The Indians fish almost daily from childhood. On the Solimões, they are expert fishers of pirarucú, an important article of commerce.

224 177 411 Hunting today is unimportant, since game has been depleted to fill the demand for hides. The *Tucuna* now use firearms, but formerly employed the bow and arrow, spear, and blowgun. They also use pitfalls and several types of snares and traps. The blowgun, once the principal weapon, is disappearing.

222 262 [245] **Gathering.**—The wild burity, bacaba, patauá, and açahy palms are of great economic value. Some *Tucuna* plant Brazil nut trees near their houses. They eat certain frogs, Coleoptera larvae, and female red ants at hiving time. They like wild honey but keep no bees.

231 **Domesticated animals.**—The *Tucuna* raise a few chickens, but do not want hogs or other domestic animals because they dirty the premises. They keep young wild mammals and birds uncaged.

412 252 [177] [434] **Food preparation.**—Instead of a mortar, the *Tucuna* use a trough with a half-moon-shaped rocker of thick and heavy wood. The making of manioc flour, introduced by the Neo-Brazilians, became one of the principal sources of income among the *Tucuna*.

HOUSES

342 The old houses had a small rectangular central portion with a short ridge pole mounted on props. Each end was semicircular, so that the ground plan was oval or nearly round. The walls were of a man's height, and were made of boards of paxiuba or of straw. The house could be sealed tight against mosquitoes. Families occupied the lateral corridors, the central space being reserved for ceremonies. All houses were spacious and well built.

177 342 352 513 The introduction of mosquito nets made house walls unnecessary. People slept on bunks along the walls, covered with mosquito nets, instead of in hammocks. Many houses were built without the semicircular extremities but with a longer central part, being like an open rectangular ranch house with a ridge pole. When the tribe occupied the flood plains of the shores and islands, they built houses on piles.